10 MINUTE SCHOOL

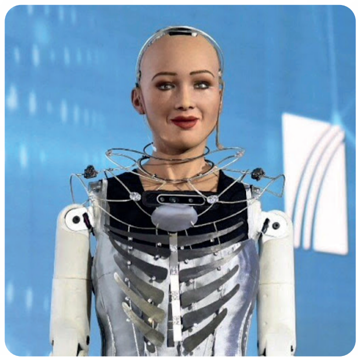
Robotics for Kids

Robot & Robotics

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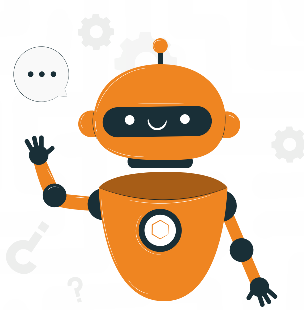
Do you know **Sophia?**



Our concept of Robot

Most of the people have wrong concept about a robot. They think a human shaped structure which can talk, operate tasks and movement is called a robot.

Do you know ?
Your smart phone can be called as robot?
So, what actually Robot is?



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What is a Machine?

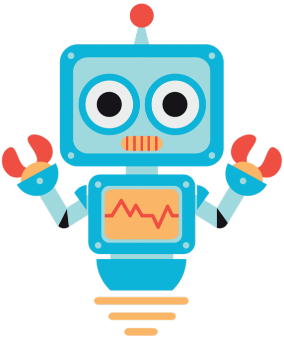
A **machine** is a device that allows you to do **work** in a way that is easier or more effective.

- *Allows you to do work in a way that is easier.*
- *Can be quite simple.*
- *A Machine changes at least one of three factors.*



What is Robot?

Robot, any automatically operated machine that replaces human effort, though it may not resemble human beings in appearance or perform functions in a humanlike manner. By extension, robotics is the engineering discipline dealing with the design, construction



Robot & Robotics

Is Machine & Robot same thing?

The answer can be- **Yes**
The answer can be- **NO**
So, what's the difference?
Every Robot is a **MACHINE**, but not every machine can be called as **ROBOT**.
Why?
The basic differences will determine with the help of the pillars of ROBOT.
3 Pillars of ROBOT- ■ 1. Sense ■ 2. Think ■ 3.ACT

3 Pillars Of Robot

- **Sense -** sense the environment with sensors
- **Think -** A Microcontroller or upgraded system can process the reading of sensors
- **ACT -** According to the process, the output generate with motors and output objects



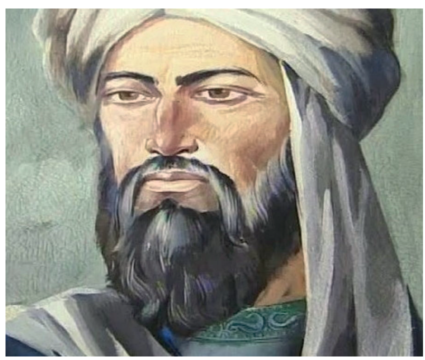
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Father of Robotics


Joseph F. Engelberger

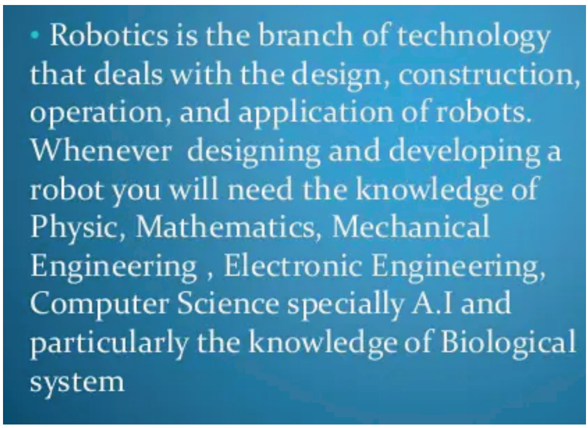
Joseph F. Engelberger, an American physicist, engineer, and businessman, was responsible for the birth of one the most important and impactful industries, gaining him global recognition as the Father of Robotics.

Al-Jazari built automated moving peacocks driven by hydropower. He also invented the earliest known automatic gates, which were driven by hydropower, created automatic doors as part of one of his elaborate water clocks


Ismail al-Jazari

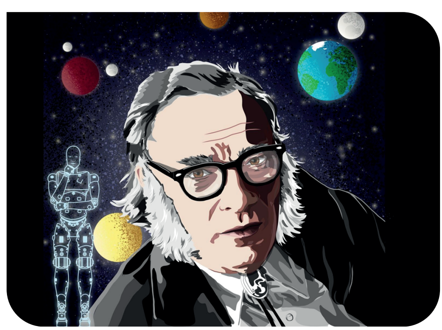
Robot & Robotics

What is Robotics



Isaac Asimov(1920-1992)

Isaac Asimov is best known for the Foundation series and robot stories. The Foundation stories were written between 1942 and 1949 and were collected as the Foundation trilogy:
Foundation (1951), Foundation and Empire (1952), and Second Foundation (1953).



Robot & Robotics

3 Laws of Robotics

Isaac Asimov's Three Laws of Robotics (1940)

First Law: A robot may not injure a human being or, through inaction, allow a human being to come to harm.

Second Law: A robot must obey orders given it by human beings except where such orders would conflict with the First Law.

Third Law: A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.